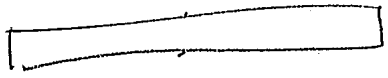
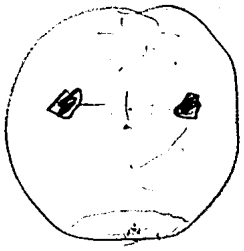
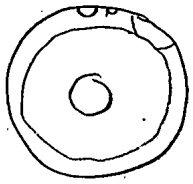
Notebook Series -- Notebooks by Edison and Other Experimenters
Disc Record Book No. 1
Notebook, N-15-12-29

This notebook was used by Edison during the period December 1915-January 1916 for notes on experiments to improve the composition of disc record blanks and the varnish surfaces applied during the transfer process. The entries at the beginning of the book pertain to experimental record blanks numbered from 1279 to 1289. Subsequent entries describe a sequence of experiments numbered from 1E to 57E. Included are notes on results obtained from varying the ingredients or their proportions, as well as varying the dipping time for varnish and varying the pressure and heat applied in forming and coating blanks. The summary of results usually provides a tally of acceptable and unacceptable record surfaces obtained. Also included are lists of solvents to add to varnish and other materials. Some of Edison's notes are in the form of instructions to Archie D. Hoffman, Sherwood T. (Sam) Moore, or other employees. Inserted into the book is a form entitled "Experimental. Powder Blank Transfer Inspection," along with another form entitled "Final Record Test." Both forms have been filled in by an unidentified experimenter and date from January 1916. The front cover is labeled "1916 #1 Disc Expmts 57E." The pages are unnumbered. Approximately 170 pages have been used.

66.69
Acme Co.,
MFG. STATIONERS,
96 JOHN ST.
AND
19 PLATT ST.
NEW YORK.







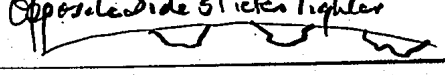
90% of Cracks are at Edge like this — its due to dipping

Must put on Centers & when its taken out of bath must be rotated till dry or so long as it will flow —

This kind of Crack

Chips out with Knife thus

Opposite side of Picture lighter



Ragged pull out.

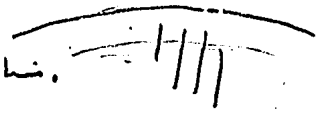
It looks as if one side of the blank sticks light & the other loose — The question is is the bottom or the top side in moulding blank that is bad —

Out of 55 Baldwin Cracked blanks
37 was

Round like this

8 like this

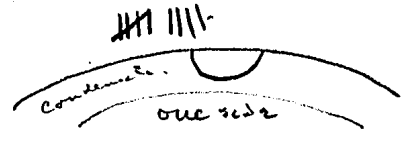
8 like this.

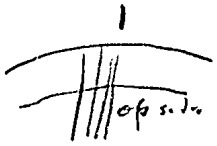


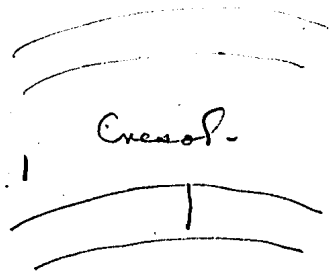
Of the two I tested
both were old Condensite blanks.

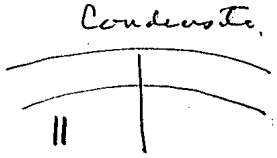
Evidently old Condensite blank after 2 or 3 years shows up cracks. The face blank shows up soonest.

Old blank Condensite — Returned Records



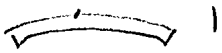


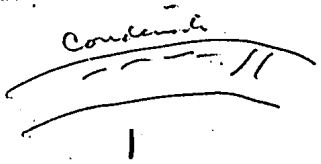




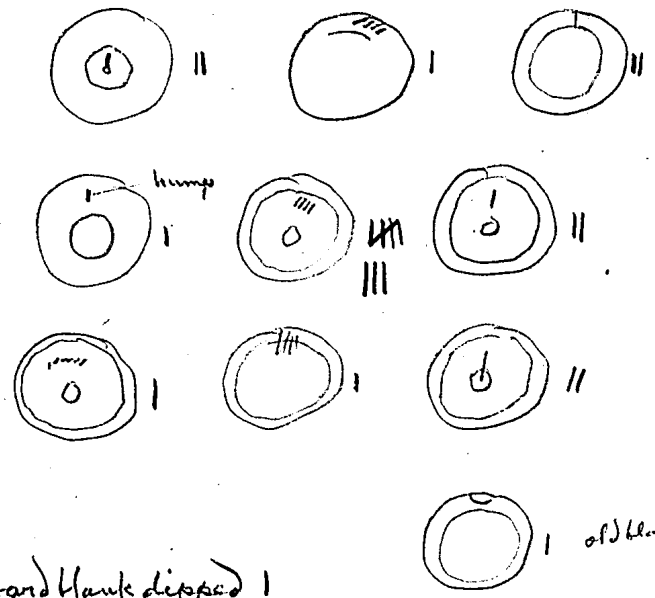
Both sides cracked

Cracked on round side





Lac Blank records —



Hard Hank dipped I
" III

12/29/15

Expt No of blank 1279

5 of wood 1 fine ordinary graphite. 1 shellac & 30% Condensite blank powder

75% OK

24 made 6 discards all Cracked.

poor edges, but no worse than Reg — Breakout.

Phenomenon
1280 Expt

Notice that the transfer sticks better to blank than old Condensate & in fact better than any one ever had

12/29/15

Expt 1280 Blank

5 lbs good ½ lump black
1 Shellac 30% of blank powder -

72.75% of

All discards - cracked

Edges break out like Reg

Blank slightly blacker

1 RO3 soft	T.B. track	RO3 – nearly soft
2 RO5 loud		RO1 soft
3 RO4 soft		RO3 fairly soft
4 RO3 loud		RO1 – Loud
5 RO6 soft		RO5 fair
6 RO2 loud		RO2 nearly –
7 RO3 soft		RO1 soft
8 RO4 "		RO5 fair
9 RO3 "		RO4 "

RO	Jum IIII II
1 III	
2 II	good II
3 IIII I	
4 III	fair III
5 III	
6 I	Ruf IIII
7	

Too much Naphthalene

Should try 24

with $\frac{1}{12}$th of

another 24 with

$\frac{1}{16}$ nap

Expt 1281 Blank –

5 wood 1 shellac

1/8 of Naphthalene, 30% solid

100 %

24 made – Transfer –

Printing 100%

78.5 %

Crack 1

OK IIII IIII IIII III

Edge Margin Crack III

Squarish Crack at fold (no. 1)

good Edges –

Test of prints — 1282

Cracked blank - RO. mod outer none inner
1 Very good surface - smooth part - faint RO outside none inside, Surface can scarcely hear

2 good surface - faint RO cracked blank
2 plain - smooth RO Edge none inside scarcely hear

3 Cracked of little RO outer Edge - inner faint hardly hear
smooth side - little RO Edge faint RO inner scarcely hear
all above have Velvet surface

Regulars to compare with 1282.
1 = RO considerable - inner faint RO -
RO very " " smooth side
2 = Bad RO - inner no RO. surface not as good as 1282 "
3 = no RO - inner - faint RO
4 soft RO - " ok "
other side Soft RO inner no RO very little surface -

4th music Rec - Big RO - surface not very good
inner - not very good - too much RO
on 1st for Violin Record -

5 Big RO - too much on start.
6 = Horrible RO. -
7 Big RO
8 Inside soft RO - other very little - surface fair
9 Considerable too much surface for Violin 1 side
other side Rotten surface for Violin

See next page

1282

5 good 1/2 Cotton flock
1 Shellac 30% of blank powder —
Cotton flock dont mix well ~~by~~ large amount in balls or tufts —

24 Transferred

24 OK —

Dont weld very good, needs some lamp black,

Prints 12 = 3 also out cracked blank moulds

OK ||||| ||||| 92% OK

Cracked Margin 1
Very bad blank —

Extra 3

OK 11

Very short fine line crack 1

Good Edges no burst out,

1283 B Duplicate

57 Blanks made 56 OK 1 pullout

Transfers 24
22 OK
2 Cracked

Varnoelds good

Printed 15 —

13 OK
2 Discards 1 Margin Crack
1 Memoic "

Continued from other page:

10 — Bad surface little RO
11 — just passable
12 - Bad surface No RO

10 Good surface no RO
11 just passable
12 Bad surf no RO

Jany 3 1916

1283 Blank

5 wood 1 Chalk 1 Shellac
30% old blank;

24 Transferred
23 OK —
1 Cracked —

96%

Prints 12 pinched + 3 with Tracked

OK - 𝍸 𝍸 ||

3 Extra

OK - |||

100%

good edges

Weldo fine

About same as old regular.

Records of 1283 chalk,

1 RO 2 soft
2 RO 4 "
X
4 RO 1
5 RO 2 · surface poor.
6 RO 5
7 — Loud
8 RO 3 fair —
9 RO 4 soft
10 RO 1
11 RO 4 soft
12 No RO - soft

No improvement over 1282
but shows slight improvement over Reqs —

Soft RO 3
RO 1 - soft

RO 3.
RO 3 soft
RO 3 soft
RO 2 loud
RO 2 fair
RO 3 "
RO 3 loud amf
RO 6 - fair -
RO 3 rough -

1284

5 parts req plate Varnish mixed with 100 parts of Shellac
blank Varnish — blank made
30% Req old blank powder
Blank dipped req way
Weldo little better than Req
61 made — moulded fair
24 Transferred —
OR 20
4 discarded Varnished Chs

Printed 15 —

OR - 10 } cond record
Fed in Chs 3
other 3 broken 6
Cracked edge on smooth side -

1285

10% plate Varnish in
Shellac Varn of Eclipse

24 Transfers Edges fair
OK 20 some [illegible]
4 Seconds Cracked

No quad —

Makes blank too hard

Experiment to see if time of dipping Shellac Electrodes in Concentrated Vacuum makes any difference

480 Blanks dipped in and quick

303 OK
177 Discards 60%

490 Blanks 6 minutes in Dip Vacuum

312 OK
178 Discards 64% OK

Nothing here evidently

Records from 1286 —

No Cracked blank

1 no RO – Rough –
2 RO 1 "
3 RO 3 surf. fair.
4 RO 1 poor
5 RO 3
6 RO 1 —
7 RO 3 Rough
8 no RO "
9 RO 2
10 RO bad
11 RO 1
12 RO 2

no RO – Rough
RO 1 "
Sharp RR short. Surf. fair
RO 2 – surface poor
RO 5 soft surf
RO Big —
RO 2 soft
RO 2 "
RO 2 "
RO big awful
RO 5
RO big

NG for RO & surface

1286 Blank –
5 wood 1 Lac $\frac{1}{4}$ Lampblack
$\frac{1}{12}$ Naphthalene – 38% acid powder

52 made –
Discards 7 – pull outs in Moulding

Transfers
24
22 OK
2 Dis Cracked Varn

Prints 15
13 ok
2 discards feed line Crack

Edges fair – Welds good

1287 Blank

6 wood 1 Shellac 30% alcohol powder
1/8 Naphthalene -

Made 60 Blanks
57 OK
3 Con

Transfers made 24 - blanks clipped
OK 24 100%
Welds good

Prints 15 -
OK 15 100%
good Edge -

Note when 5 wood 1 face 1/12 nap
+ 1/4 Lampblack used.
91% Transfer
86% Print.
Lampblack
not good —

Couldn't Print

only because
Instructions
good
A drop of 10,000
less than
60%

1288
6 wood 1 shellac 30% add powder
1/12 Naphthalene —
56 Blanks made No discards
100%

Transfers 24
OK 24 100%

Prints 15 all together of which
3 on cracked models smooth Each
OK 15 100%

Van worlds good to blank —
Edge fine —

BANNER

1/7/16

1274 - 1/12 Nap 10 ounces

1288 Powder 58 L 7.7 6/4

Frenafd 996

" OK 662

Dis - 374

Pullants 51

Cracked Var 323

62.4%

Something rotten in Blank dept.

We vary our 6/4 by wear test, use

7.7
7.8
7.9
8
8.1

.4 Variation to Just Vacuum

We made an Experiment with same recorder from same Vac Onyx to test if our Dogs were doing work night

1289 — 6 wood 1 shellac
30% old powder

1/16 Naphthalene —
Moved 55
52 ok 3 pullouts —

Transfer
24
20 ok 4 cracked
Weld fair — Edge only fair

Print 15 —
13 ok 2 dw 1 feathering ok
poor print —

Really 14 ok

RO See Moore's book for data

Experiment No 1

Flow 100 plates with 30cc of Varnish, work & bake regular

Transfer ~~[illegible]~~ regular

Print 24 of them.

Some on Tracked blanks

some on wide margin

Music - or if you can find enough tracked blanks to get quick results use them in preference to music

RO2	rough	RO1	rough	
RO1	Rough	RO1	rough	
RO2	little load	RO5	fair	
RO2	Rough W93	RO4	fair	
RO1	fair	RO1	good	
RO1	rough	RO2	Rough	
RO1	rough	RO3	Rough	3629 - ng
RO1	rough	RO1	Rough	
RO Bad	rough	RO3	fair	218 more
RO1	fair	RO5	fair	
RO bad	rough	RO1	Rough	
RO bad	rough	RO bad	Rough	
RO1	rough	RO1	good	
RO1	rough	RO3	fair	

Transfered 47
OK 44
1 pucker 97
2 Cracked

No wrinkles in plates after baking

Thin plates NG

RO6	fine	RO3	rough	
RO5	fine	RO5	good	
RO2	good	RO1	fine	
RO Bad –	good	RO bad	good	
RO3	fair	RO3	rough	ckly moved
RO4	good	RO1	rough	bad moved
RO5	fair	RO1	fair	
RO1	rough	RO6	good	– Bad moved
RO bad	fair	RO3	fine	
RO2	Rough	RO2	fair	
RO V Bad	Rough	RO5	Crackly	107 ?
RO4	fair	RO6 –	good	
None	fine	RO3	good	
RO3	rough	RO Bad	fine	

Apparently no gain in drying 10 hours as against present method

There is some bad tracked moulds in these

makes it worse than really is –

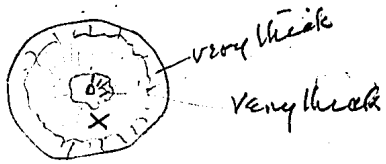
RO cut Expt

No 2 = Put 10 Bird caps aside & let them dry 10 hours including the time on the racks then put in furnace Reg & Increase for Reg Print 20 to 24 on tracked blanks & test for Run Outs

Transfed 14
OK 14 100%

Print 13
12 OK practically 100%
1 Hole due to prevent

Good Experiment -



fine radial marks on thin part
X - most all the Varn ran to
Edges & Center, leaving very
thin shell between edge & Center
One plate had 3" very heavy Center
+ 1/2" very thick outside —
where thin radial marks are
all over & fine grain - those
in thick part are Coarse grain
Evidently plates must get more
drying on rack

Run Out Expt -

#3 - Mg

Run 30 ~~[illegible]~~ Varnish
plates thru regular, but when
you put the plates in bird
Cages Cover over Each
Varnish plate with an
empty Varnish plate
This to Keep alcohol from
Evaporating too
quick in oven -
Transfer & print on
tracked blanks

Comparing Reg as shown in RO 2 E
Acetate amyl is a great improvement
? Doubtful

RO1	good	RO2	V. fine
RO2	good	RO4	good
None	good	None	good
RO1	fine		
RO2	good	RO4	fine
RO1	fine	None	V fine
RO4	fair	RO2	Brackly
RO bad	tough	RO4	good
None	Brackly	RO5	good
RO2		None	fine
None	fine	RO1	fair

Cut the X out

Given 70 — OK 45 —
Six & dust - 16 Cracked

Transfd 20 100%
20 OK

Prints 12 OK 12 100%

Phenomenon

This is so more or less my Regular & must be stopped —

Run Out Expt 4

Make gallon Reg Varnish but replace 10% of the Alcohol with acetate of amyl in it — flow the plates, + Run them thru regular — Transfer + then print 12 on tracked blanks —

The Reg negatives used acts different on these Wengers all others change to red while these keep dead black + colors stripped Cant see them

Notice this morning after being first in Lab one cracked from hole outward + also fuzz from plate — Keeps changing & queer

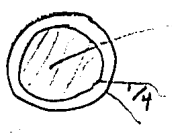
Moore found 1148 - 3 of them
old all Carbolic 4 to 1 mix
20% ground powder in
Young has 3 reg Cracked
blockers

RO6	fine	RO6	fine
RO6	fine	RO5	fine
RO5	good	RO5	fine

Run Out Expts - July 15 1916

4 each
50 mesh screen over

The plate is flowed & this put over to
keep air dirt off



ditto 1/2
ditto 3/4

Ring to prevent Edge
Drying too quick

ditto 1/2
ditto 3/4

RO
1 — ||
2 |
3 ||
4 |
5 ||||
6 |
none

6 RO Louder than 5

fine
good ||||| |
fair ||||
Rough - |

no fine

Edges fair

Blank too soft
nearly all poor
print on Edges

Experimt Blanks — #5

100 blanks, 4 wood
1 Shellac, 30% old powder
well mixed —

Transfer — Hermans or
Polished steel —

Print 24 — several showed
be permitted on
tracked ~~blanks~~ moulds

Transfer 24
22 OK
1 Ckd
1 mechanical

Print 6 OK
6 poor print
cracks

Expt Blanks #6

Dup of #5
Except 4½ wood
1 Lac 30% old powder

No use test Records
gives on Edges
too soft.
Wants very
hard blank

Notes –

Find a fine powder which will float over varnish on plate or watch –

Solvents to add to Varnish

Solvent Naptha over higher alcs
Low BP Paraffins – Lower alc ethers

Oleic acid

Benzaldehyde BP 160 C

glycerine

Glacial phos acid

Camphor Oil – Light & heavy

Cedar wood oil 16 Cents
Eucalyptus – 50 "
Lavender (garden) 80 "
Origanum – 25 "
Pine needles 75
Safrol 27
Artificial Oil Sassafras – 24

Benzenesulfonate Soda

Camphor

Pyridine BP 116 C

Alcohol BP 78.5 C
" Allylic 96
Amylic 131
Benzylic 200

Fusel oil - $3.75 has several alcohols in it.

Monochlorobenzol 132 C
Rosin Oil.
Linseed Oil
Castor -
Canada Balsam
Epichlorhydrin - 119 C
(Ortho) Ethyl Formate 145 C
Ethyl Oxalate 186
Ethyl Benzoate 136
Nujol
Safrol 233

Think the Varnished was all Cracked before went into oven —

Run Off Test:

Moore — Expt 7

Take 2 bird cages full with good plates, even flowed. set them aside in warm room for ONE WEEK

The bake, transfer, + print

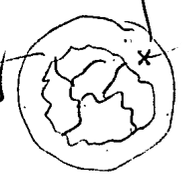
Reg —

Plates were set aside 2 week

Then Baked —

Started Cracking moment get out of Oven —

All Cracked + lifted in Big Chunks



Veneer Extraordinarily Brittle

Phenomenon

Note at bottom of dish the matte

is this resin settling out because alcohol no longer can hold it in solution

lies must be on our reg plates, - if so

A better solvent than alcohol should be added to alcohol to collect + clap matte —

1. pin so far old Solvent Nap 1/2 + al 1/2 dont crisp so much + is even

on other hand our sol nap 1/2 + al 1/2 is very bad, stuff settles out, creeps + breaks —

1/2 alcohol 1/2 Monochlorobenzol Resin dissolves fairly well when on butter dish over water bath on hot plate. Resin precipitate at bottom after evaporate —

1/2 al 1/2 our Solvent Naphtha does same thing —

Both the Monochlorobenzol + our Solvent Naphtha are very poor solvents of Resin —

This leaves resin more solid than the others our Sol Nap test Camphor oil very sticky — amyl acetate soft —

With the Solvent Naphtha (old lot) from Barrett — dont dissolve much I think but 1/2 Nap 1/2 al ok. dont notice it runs much on plate creeps however — even

1/2 Barnett Nap 1/2 al. is very fine
Even, I notice some streaks at
bottom very faint not colorlic
but there may be in dark itself

Our Sal Nap actually seperates
from the Solution

Camphor Oil good solvent
Amyl acetate Very good solvent

Amyl acetate Solution, runs
up badly on side of
dish barely after pouring
on ~~[illegible]~~ (streaks + bare)
spots like alcohol
afterwards Even up

Camphor oil dont creep
but that is because its
not evaporating rapidly
Later its creeping &
streaky—

RO

Bad |||
1 — | —
2 — ||
3 ||
4 — |
5 — |
6 — ||||
none

Surface

fine |
good |||
fair ~~||||~~ |||
Rough || Bad Mark

NG

What is 1299 Blank

This is NG as Moore says it flows

It is Very bad Weld

Run Knife under ½ inch

NG

Run Out
Expert #8 1299 Blank

Made 24 Transfers on 4½ wood 1 Lac 30% ISO powder —

Dont Dip

Print — Tracks Moulds

Transfer 24
22 OK
2 Chipped Edges

Weld poor - chips off

13 prerolled

all Cracked at Edges —

Blank Too Rich floors

from the rough Experts think light Solvent Nap old from Brassell is good to mix with Reg Varnish in place of some of the alcohol.

Hoffman making a reg Var. with 25% Solvent Nap (bad) in

This works good on little plate its better than Regular — dont gas so much — is lighter & very little matte or streaks —

Make a large Experiment When Can detect Xylol + higher off to separate

Experiment # 9

Take ½ doz band records different tunes

put transfers over them

then print with a tracked mould —

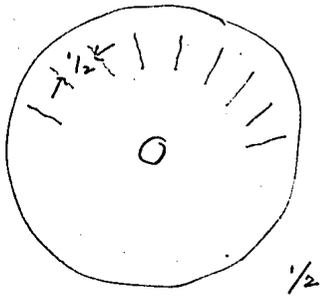
Want to see if we can hear the music on tracked blank ——

Big RO - but should be put on better blank
will try it on
48E

1 On 1293 RO is there but not more than #3
2 Dont notice much -

Dont do much
& varies -
Reg Var Reg Sol

Expt #10



Dents made on transfer plate
1/4 long 1/32 wide
1/2 depth of an reg dent -
& 1/2 way around

These are to be made both ways on the face & also on some plates only on the backs

RO II 1 - IIII 2 III 3 II 4 I 5 6 None		Fine good III fair IIII II Though - I

Too much pressure on Reg blank & Reg V Very bad RO & Very poor surfaces - Springs back due to stand up slightly of tube & too not conform to Hole

Expment # 11

Take 2 dozen ~~transf~~ plates with very bad radial marks that you know will give horrible Run out — make Transfers & then print Regular but before you Cool, run pressure up to about 2200 lbs & then Cool under that pressure - This Experiment is to see if we can press out radial marks

12 Transfd all OK
12 Print " "
on Reg blanks -

RO
1-1
2
3-1
4-1
5
6 1
none

Oven — 39 plates
OK 4 or 3
Rejects worthless
Reused 23

Fine
good III
Face
Rough 1

Note this

The Extra 6/4 in 12 is cause of raising from plates as to 13 which had less 6/4 & did not raise

This is a Phenomenon & Thoroo Care must be used with 6/4 — Naphthalene would probably be better than adding Extra phenol as 6/4 probably not need be so dehydrate

Expt 12 E

Note enormous improvement in surface in 13 as compared to 12 + even Var plates to due to use of 29 phenol

Hoffman — You use 15 to 16 free phenol resin + add phenol to bring to 22. 6 Nap

Make gallon Varnish but instead of adding phenol leave it out + substitute the same amount of Naphthalene ——
use 7.9 or 8 6/4 as usual

39 plates flowed —
OK 4
35 discarded

Reg blanks
Dipped —

Varnish raised from plates = after baking surface good no radial wrinkles — All are wormy small
All Even plate

Print 2 ok —

Note raised plates on high amount 6/4 as compared to 13

Welds good

RO
1 - 1
2
3 ||||
4 |||
5 ||
6 ||||
None 1

Even - 39 plates 31 ok
Bubbles 8

Fine 1
good ||||| ||||| |||
fair ||
Rough

Var Works good - plates good
Vus 2.45 - Room 82 Var 68

Pretty good surfaces — but RO are still there but most weak —

Edges good, could be better
Some has very small pull out, good weld to blank but blanks should be tougher so Var dont pull off tape

Should try some not dipped
Weld is nearly as good as old Carbalic blank
Think its good enough —

Expment 13 Wear test 250 - slight grey in spots OK - 50 Thin pad [illegible]

Dup of 12

Duplicate this using
7 : 6/4 — Naph

This is on 1293
Blank 22 E

Flowed 39
31 OK, Blanks dipped
8 Discard small bubbles —
Can use —

No wrinkles — wavy - All Even plates,
Try wear test on this on account low 6/4

12 transfers all OK

1293 blank

11 Prints
1 Pin Hole -

31 Baked

12 Trans OK
11 prints all OK 8 Dis. small bubbles
wavy all even plates -

RO
1 |
2 ||
3 ||||
4 ||
5 ||
6 ||
now ||||

Fine
good
fair ||
Rough ||||

Entirely too rough - Horrible ~ looks bad surface — RO are not bad but it shows them —

Moore
Expt 14 E

Press with smooth plate ~~some~~ 1/2 dipped ~~plates~~, blanks Then print on tracked blanks, want to see if Run Outs —
Dont Bake the dipped plates. ~~black~~ - black

E 15

RO
1
2
3
4
5
6 ||||
none ||||

Fine
good
fair
Rough ||||| |||

E 15 1/2

RO
1
2
3
4
5 |
6 |
none -||||| |||||

Ruff ||||| |

Note improvement dipped blank by Baking

Horrible surface as is to be expected but RO are extremely faint & 1/2 have any Chrome Most RO & on plates or Combination of wrinkles & a soft blank

Moore. Expt 15 E

in oven 6 hrs 180 deg
2 1/2

Dup of 14 E

Except bake the dipped blanks same as plates
req schedule —
No Transfers on

15 1/2 E

Held 9 hours 1 1/2 hour
230 deg

No Transfers on

15 1/2 Seems to show baking high is better than baking low — if we bake at all —

Moore – 16 E

(1) Press dipped ~~plates~~ Blanks 12 of Chain between polished plates. press Req. 500 lbs — Then remove + put regular transfers on at 500, then when 15 minutes is up Run pressure up to 1200 lbs hold for 1 minute + Cool

The theory here is that the putty like free phenol is to graft + allows Condensate to spring back & I substitute a hard brittle Copal to demonstrate the putty like substance —

Try Olibanum Tears	15 c	
Senegal	20 c	
Kadaya	15 c	
Euphorbium	18 c	
Myrrh	17 c	
Dammar	15 c	
Kauri –	15 c	
Shellac –	16 c	

Given 30 pebbles and left plate 25 ground 2 cled like Sandarac

#17 Veneers all left plate acts like Dandarac + probably could replace Dandarac to prevent sticking to plate – Copal 1 Reg Rol ~~[illegible]~~ brittle about same as good Reg

Hoffman 17E

Use 2/3 Regular Resin

15 to 16 preephenol – 1/3rd Number 1 ~~[illegible]~~ Copal – ~~1st trying of~~ ~~Usually 1" is good & valuable~~ ~~in alcohol~~ – to 100% solid – powder Copal up finer like the Resin -- Use 8 6/4 + other regular ingredients

Make 1 gallon use 4 or 4 1/2 to 1 lbs if you have clean flow transfer to percent on tracked blanks – Dont use dipped blanks

Phenomenon

Inactive Reg put on hot plate dried slowly & then Condensed all night on plate direct. Has dull surface one side (bottom) Top is shiny no waves or mottle

Dup with glacial acetic bright both sides & not near as brittle tougher bends more

S S
1 1

Hoffman 18 E

Dup of 17 E

But substitute Sandarac

Moore says he has stoned them off & printed & they were there just the same showing trouble was in bottom.

When you use fine Emery – The streaks radial shows plain on top =

Phenomenon

It looks as if the worms & streaks & radial corrugation was on the bottom & not on the top as they appear & are due to the settling out of something in the Varnish

Raise up as you can stone off the Top & see them on Top &

Tracked

RO4 - good 5
RO5 "
RO4 "

RO3 good sand
RO6 "
RO6 - very good

Mixture

RO3 Rough
RO5 fair
RO5 good
RO4 good
RO6 good
RO6 fine
RO big wrinkles big radial marks 5" of Edge. not due to Crank
RO6 - fair
RO6 - fine
RO big RO. Radial marks
RO6 good

RO3 rough
RO6 - good
RO3 good
RO3 good
RO6 Little rough
RO6 fine
RO4 fair

RO	fine
1	
2	good
3	
4	fair
5	
6	Rug
no 1	

Demit

RO6 good
RO6 good
RO6 Rough
No RO Little round

Hoffman gives one 1293 63% Hum 180
Anchor 34% Hum 180

1293 —

Phenomenon

5 to 1 2 Chalk —
No ground blank —
Moulded 99 o/o
100% ok blanks - 7 to 1
Transfers 24 87.5
OK 21
good edges —

Prints.

find out how this chalk was mixed

Mixed with shellac Varnish with the wood —

Something in this —

Chalk stops Sprouting of the fibre —

only bad ones so due to Varnish wrinkles —

Estimated by Eye

Solvent in Alcohol

Soft Mexican American Asphalt	5%
Gum Giddu	50%
Dammar	80
Senegal	50
Copal #1	100
" #2	80
" No Number	80
Kauri —	5%

RO bug
RO 2
RO 3

RO bug
RO 2
RO 2

1292

4 wood 1 Lac 2 Check -
30% old ground black
98% OK in Moulding
79 moulding OK 1 hollow
moulding
Transfer 24
21 OK
3 Cracked Var

Prints

40
1.20
2.00
7.20 to 1

Acetic Acid NG

Oven – 35 plates – 180/2

Bubbles 13
Rame 1
Wrinkles 3

19E Expt

Hoffman 1/2 gallon

Reg Varnish to which is added to the alcohol

4 parts of Glacial acetic acid, to 100 Resin

~~of alcohol is~~

~~140 you add 5 parts,~~

~~of glacial acetic 145~~

~~parts of Alcohol and together~~ —

~~Spread~~ Transfer on $4\frac{1}{2}$ to 1 blanks
30% old powder

not dipped.

Print —

Var — sent back as Var was
Lumpy returned saying that was
its nature of it No +
Vs 240 — Room 80 Var 70

Damar Contraction large
Cracks the Condensite

Phenomenon →

Oven 31 plates 31 Cracked

20 E Hoffman

Dup of 17 E

But use gum
Damar +

All shrunk & cracked in every
direction, Extraordinarily Brittle,
Very thin condensite,

~~Thus Experiment shows, we~~
~~must first & exact Keep~~
~~but also Varnish & Varnish~~
~~glass & Condensite~~

No 1 Copal acts good, acts
like Sandarac. Veneers all
left plates —

21 E

100 Blanks made entirely out of Charcoal ground fine — Use 5 charcoal 1 Lac —

Dave these blanks & choco to me —

RO1	RO 2
RO 2	RO 3
RO 3 buckle	RO 2

One side of blank seems to be softer than the other side

1291 _

6 wood 1 lac 1/2 Chalk
30% alb powder
51 made 49 OK

8.28 to 1

Transfer 24
OK 19
Dis 5 Ckd Var

Prints 15 15 OK

Very poor surface
Old ground blank
Wherever cwcd makes
Records bad -

RO 3 good lacing | RO 4 – Radial marks sometimes left on buckle – [illegible] marks only much worse –

RO 2 fair lacing | RO 2 fair lacing

RO 6 rough | RO 2 rough

RO 1 very rough | RO 1 very rough

RO	Fine ||||| |||||
1 = |	
2	good |||
3 ||||	
4 |	fair
5				
6 ||||	Rough
none |	

Weld good

Edges fair –

This looks as if 7 6/4 no free phenol + 6% Naphthenates as heavy as good as 22E

Very fine – 1293 + Reg Var – dipped

Only trouble is RO on account probably of too much wood or not enough lac

22E We have 700 of these Blanks –

5 wood 1 lac 2 check

no old powder

Duplicate of 1293. Blank Reg Var 1256 –

no ground blanks Dipped –

Make 500 of these blanks

Dont use old powder –

12 Transfers

11 OK

1 pinhole 100%

Printed 6 –

6 OK – 100%

Blanks little thicker than Reg

not so thick as 23E

No change blades on loading machine packs mess in loaders, packs close in small pocket

3/16 scrape off weight 441 gauge 235 –

719 Blanks made –

RO

1 ||
2 |
3 ||
4
5 |
6 ~~||||~~
none |

Fine ~~||||~~ ||||
good ||
fair |
Rough –

Not quite as good surface on Gun RO as 22 E

Welds good – very

Blanks of 100%

Edges Crumbling (a few) may be due to it being much thicker than Reg
Produced in thickness it might not Crumble
We'll Gallery try some thinner
Weight 408 – ~~[illegible]~~ leave mould fair
1/16 scrape off packs mass in loading Machine

23 E Hoffman 1307

~~1296~~

Dup of 1293 Black

Except 4 Wood 1 Lac 3 Chalk
1307 Hof
Do not use any old powder –

Make 500 of these
23, Expt Blacked [illegible] Reg Vac 1266

Transferred, 12 all OK

Prents 6 ~~all~~ 5 OK 100%
1 Cracked

50% of records have Edges Crumbled out for 1/5th circumference – not Enough fibre to hold it – may be or too chalk – Wants longer fibre or more Lac
Blanks Moulded thick –

Think it wants more shellac, too dry
Chalk drinks up shellac

24 E

RO ||
1 - ||
2
3 |||
4 - |
5 ||
6 - ||
None

Dipped

Fine |||
good ~~||||~~ |
fair ||
Rough |

Edges not very good
not thick blank —

not near as good for RO + far below surface 1293 22E - Welds good

RO 25E

1 - |
2 ||
3 ~~||||~~
4 ~~||||~~
5 |||
6 ||
None ||

1 Not dipped

Fine ~~||||~~
good ~~||||~~ ||||
Fair ||||
Rough ||

Pretty ~~good~~ fair weld
not good enough -

good Edges No RO + Fine on one broken Moulds

good deal trouble is with moulds -

~~Dipped~~ has poor Edges CO. Like not dipped
has good Edges. Drip soft stuff may cause a flow -

24 E

4½ wood - 1½ old blank powder 1 Lac
mix all with blank Varnish -
Dipped

Make about 100 blanks or so.
Do not dip but ½ the blanks
Transfer -
+ print Reg Var 1256
Reg Var - Transfd 12 12 OK
Print 6 - 5 OK 1 very fine - Cracked
Damned old powder queers it

~~25~~ 26 E Duplicate of 24 E
The other ½ of the 100
blanks are not to be dipped
Transfer
Print Reg Var 1256
12 Transfd 11 OK
1 Ckd

Blades lowered 1/8 probably mean pks loose in press
1/8 scrape off weight 376 grams over heavy moulds clean

Jogelgram in Ether

Borate Ammonia Sol Alcohol

Borate Ammonia Magnesia "

$CuOH$ in Ammonia "

$ZnOH$. in Ammonia "

Shellac Var mixed in every proportion with Reg Varnish, is NG Bubbles, sticks to plate — Rotten —

RO		Surface		
RO		Fine		
1		good		
2		fair		
3		Rough		
4				
5				
6				
None				

25 1/2 E

Moore Dave 200 plates with Wrinkles radial on Run them thru Oven I want to get a black hard enough to smooth them out in freezing & painting

RO4	rough	RO3	fair
RO3	fair	RO1	fine
RO1	fine		
RO3	good	RO5	fine
RO1	rough	RO Bad	good

RO 1	fine III
1 III	
2	good II
3 III	
4 I	fair II
5 I	
none	Ruf II

Wrinkles dont disappear on 1226 blank - I suppose this is reg blank ask Moore - try it on 1293 + 48

Wrinkled varnish plates
Very bad wrinkles
Var 1255 - 9 -
Transfd on 1226 blank reg Oakfield
put paper under wrinkles to mark the places

Transfd 12 91%
OK 11
1 puncture

Print 11 -
OK 4
3 poor print margin
3 Cracked
1 feed line -

Note Cracked on print + pull out on Transfer

RO

RO ~~Bad~~ III+ fair	RO —
RO 1 = ~~IIII~~ good rough	RO 1.11 fine rough
2 = III good rough	2
3 II good	3 = I rough
4 III good	4 II good fine
5 II good	5 II good fine
6 III	6 = II fine
0 I	0

Surface

fine ~~IIII~~ I	6
good ~~IIII~~ ~~IIII~~ IIII —	13
fair ~~IIII~~	5 —
Rough III	3

It welds after Cut
not good Enough —

1296 Varnish

Special dipping Varnish made of Shellac Same as Req

Dipped 60 1226 blank

Transfer 60
58 OK
2 pull outs

Poor weld to blank

Prints 15 —
13 OK
2 Ckd Marque

Male Ckd on 1226 w this req
blank

Bad
1 — |||
2 — |
3 — ||||
4 — |||
5 — ||
6 — |||
none — ||

Fair |||
good ~~||||~~ |||
fair ~~||||~~ |
Rough 7

Didnt record 3 bad sides of Cracked blanks in Chart.

1267 Blank
5 to 1 mix $\frac{1}{2}$ para
30% old blank put in dry
Inspected 432
386 OK 94.6%
23 Cracked
7 Holes
16 chipped
Dipped blank –
Printed 12 all ok
Note Cracked on ~~rough blank~~ 1267 blank (what is 1267)
~~[illegible]~~
~~[illegible]~~
Welds fair — good as Rag
ask Moore

RO	fine ||||
1	
2 ||	good |||| |||
3				
4 |||	fair
5	
6 ||	Rough
none	

Edges 1/2 of them broke out —
Thick blank little above standard,
Welds good but contraction pulls up + split blank $\frac{1}{32}$ in —
powder when pressed at 20 lbs small press showed cracks in — no scrape off
Weight 450 — leave moulds dirty —

26 E Dup of 1293

Make 75 or 80 blanks

3 Wood — 4 Check 1 Lac

Req —

Blanks no pressure small press 100% OK Unsafe sinking

Dipped few, Save the others

12 Transfers Req Var
Req schedule
11 OK —
1 Dis Mechanical

Prints 6

4 OK
1 imperfect margin
1 poor print

RO
1
2-1
3
4-1
5
6
none

9

towards 450 no pressure
blank loading Mar known
1 inch shows cracks in press
at 20 lbs, pressing breaks below wounds
ring no damage off-loaders
middle dirty 1

fair 11
good
fair
Ruff

Ought to put more Lac in + make Chamm
blank hot

Blanks dont give — Makes
poor prints Consequently
too much Chalk Makes
springy and
Edges Crumble out

Phenomenon
The less the wood springs so as to
not spring + making a hard blank
the smoothes the surfaces + less
the RO — No Mottled surfaces show on
Record — Defects are Edges + poor prints

27E Run of 1293

Make 75 or 80 blanks

2 Wood - 5 Chalk, 1 Lac

Dip a few - for test

Blanks no pressure on smooth press 100% ok no strike off shows cracks with 20 lbs + press Blanks stay off break easy

12 Transfer Reg

Reg Schedule

Note Cracks { 8 OK
4 dies for Cracks

6 printed
3 poor print
1 imperfect Marque
2 OK

RO
1
2
3
4
5
6
Now

Fine
good
fair
Rough

No prints, Transfers Kan Cracked
also blank Cracks, fair ~~the~~
welds strong so it pulls off
1/32 of blank — It is rather
strong more than I thought
possible nearly as much
as a Victor Record
Very thick —

NG

Blades lowered 1½ punch below moulding
showed cracks on small press at 20 lbs well that pressure
it was moulded no scrape off
leaves moulds dirty 103 blanks made

28E Dup 1293

Make 75 to 80 blanks

1 good 6 Check 1 Dec
Dupped —

Blanks no pressure in small press 103 blanks all ok very soft Grain

Dup a few for test, Save Balance

Note, Cracked NG

~~Wood too small~~

Its not that wood is too
small there is not enough
Shellac

RO
1 -
2 ||
3 |||
4 |
5 ||||
6 |
none

Fine
good ||||| ||||| |
fair |
Ruff

Very light blank — quite thick blank
Var Welds good —
Wt 360 — 20 lbs small from Lowered Blades
1/8 5/16 scrape off
3/8 calliper lawnmowed clean
660K 6 dis mechanical defects

29 E Make 75 to 80 blanks
5 wood 1 Charcoal
1 Lac Mix all with
Lac Vari — Charcoal
should be as fine as
old blank powder
Dip a few for test
Place the others
Transfer 12 on Reg V Reg 6 ch
12 OK
Prints 6 6 OK
Blanks breaking 100% soft spongy
Thick blank
Edge fair 25% of Chin broken out

RO
1
2 1
3
4
5 1
6 1
Noms ||||

Fun ||||
good 1
face
Ref

Edges crumble out all around
welds good but blank fractile
pulls away

Only trace of Mottle.

Something that does away with
surface does away with
the Run outs,

30 E. Make 75 to 80 blanks
Dup of 29 E
But 4 wood 3 charcoal
1 Lace

Blanks 20 lbs
press in small pot
7 ok
Very pot
Broken
cracked
at the

Dup a few for test Lace
balance

14 Transfer Reg V Reg Schedule
4 OK
7 - Cracked — Mole Cracked
Prints 3
1 OK
1 Chd on Mangnet Center
" in Center —
Blades reamed 1 1/2" on loaders
packs fair in press
1/8 scraps off wt 375 clean moulds
Edges break — soft blank
102 made

RO
1
2 |
3
4 ||
5 ||
6 |
None ~~||||~~ |

fine ~~||||~~ |
good ~~||||~~ |
fair
Ruf

Edges Mealy
Welds good but blank seperates
1/32 - no cohesion —
3/8 blank
Blanks 20 lbs in quad
pieces 77% good
Discards crumbled Edges

31 E
Dup of 29 E
But
3 Wood 4 Charcoal
1 Lac

Dup a few for ~~test~~ & avg
balance
12 Trans Reg V Reg QCR
7 OK —
5 dis ckd Varnish
nots Cracked

Print 6 —
4 Cracked Center
2 Chipped Margin —
Blades lowered 1 1/4 punches close in small pieces
1/8 scraped off wt 420 ss gouged over
leave moulds clean
84 OK 25 discards mechanical defects

Blades lowered 1/2
packs mac in mould -
powder pressure below moulds
1/4 to 5/16 gauge
heads moulds clean

Soft blank - breaks around edges
in Extracting
43 OK
32 descends broken edges -

Charcoal eventually
takes up more lac
soaks it in -

NG

Blank 50 lbs pressure
average pressure
57/50 OK
breaks when
Extracting

Note 30 31 + 32
as Charcoal increases
Cracks increases
too dry Lacquer

No
32E Made 74 to 80
Dup of 29E

But use
2 Wood 5 Charcoal
1 Lac

Dip a few for test, save the
balance

Only Transfers
All cracked Blank
gives too much -
trouble - 3/8 thick
3 stuck to plate
NG

RO
1
2
3
4 ||
5 ||||
6 ||||
none

Fine ||||
good ||||| |||
faer
Rough

Edges – OK good
Welds good

Var – This Var works good – plates fine –
Vro 2.45 – Rtm 79
Var 60

Run wear test on this –
Low 6/4

~~Should Dup this on~~
~~1293 blanks~~

Note bubbles
in OVEN

Pattern
32 – 16 OK
Bubbles 16

33 E

Wear test show a little wear at 250 – none at 150

~~Duplicate of 12 E~~
~~Except use twice the~~
~~amount of Naphthalene~~
~~that you did use in 12 E~~
~~Keep Resin + 6/4 the same~~

33 E
Dup of 12 E
Except use 6 3/4 6/4
on 1293 blank E22 – dupped
Transfers 8 8 OK
Prints 6 – 5 OK – 1 imperfect

Ro
1-1
2 ||
3 ||
4
5
6 ||
none |||

fine |||
good |||| |||
fair 1
Ref

Welds good,
Edges fair

150 Times
OK for wear

Oven 13 plates 20 ok
uneven
Rubber
Dust

Test this for wear low 6/4

Should duplicate on
1293 Blank
Var — works good — plates good
Room 82 Var 69 — Vis 2.39
Note less bubbles as 6/4
Comes down

250 Times wear, Best OK for wear
bubbles

34 E

Wear 150 ok

~~Dup of 12 E~~
~~Except use 3 times the~~
~~amount of Naphthalene~~
~~you did use on 12 E~~
~~Keeping Resin + 6/4~~
~~the same~~

flowed 33
wet good
Baked 20
Dry 13
10 bubbles
3 uneven
Very complete

34 E

Dup E 12
Except use ~~7~~ 6 1/2 6/4
10 Transfers blank #293 E22
Dropped ~~[illegible]~~ Reg OK
all OK
Print 6 —
3 ok
all comes { 1 slightly chipped
1 poor impression
1 poor print

Trans 10 all ok

RO — Fine ||||
1
2 | — good ||||
3 |
4 |||| — four
5 |||
6 ||
None || — Ruf

~~Vars - flowed far more better than any we ever had all plates perfect~~ no patch — Room 85 Var 65
Vis 2.29 —
1293 blanks were dipped
12 Transfer 12 OK
6 permits 6 OK

Varnish 1318 Hoffman
Run wear test,
good weld,

OVEN - 31-26 OK
Bubbles 4
Raised 1
Very Even

~~Var - flowed far better than any we ever had all plates perfect~~
~~Room 55~~ Var 64

Wear test 250 hours
OK. very slight
shine off cup rich part,
Band.

35 E — Wear test

~~Dup of E 12~~
~~Except use 5 times the amount of Naphthalene you did use in E 12~~
~~Keeping recent 6/4 the same~~

35 E
Dup of E 12 — 1293 blanks
Except use 6 1/4 6/4

Transfer 12 OK
6 permits OK
works best of any so far
plates OK
Bubbles 2 6
5 Dry 4 bubbly
1 Raised
very even plates

RO
1
2 1
3
4 11
5 1
6 1
None ||||| ||

Time ||||| ||||| ||

good

face

Ref

Oven — 32 - 240 F
Bulbs 6
Lamp 2
Very Even
Look worm
No added phenol
about 5% Naphthalene
+ only 6% 6/4

Run wear test, on Band —

Very good, Wear Test 250 Times OK

Var - works fair few small Holes in plates
Room 79 - Var 68, Vis 2.42 ~~all~~
~~What Black Coat case~~ 1293

There is good Varnish
apparently fit
Stands Wear test 250 Times OK
Note bubbles diminish as 6/4 comes down

Note 35436 - Surface + RO
+ yet on 1/4's def 6/4 - Think this would
make all the difference something else
wrong

36 E

Wear test

~~Dup of E 13~~
~~Use twice the concentration~~
~~of Naphthalene speed dry~~
~~use on E 13~~
~~Keep Resin + 6/4 the same —~~

36 E Dup E 12
Except use 6 6/4

Hoffman Number 1319 —
1293 blank dipped
12 Transfer
11 OK 1 small bird
6 Print 5 OK 1 poor print

Note the appearance of birds

~~34E~~

~~Drop of E13~~

~~Use 3 times the~~

~~amount of Naphthalene~~

~~you used in E13~~

~~Keep the Round 6/4~~

~~the same~~

1675
5000
6675

16750 (2.50
13350
34000
33375
6250

38E

Dup E13

Use 5 times the amount of Naphthalene you used in E 13

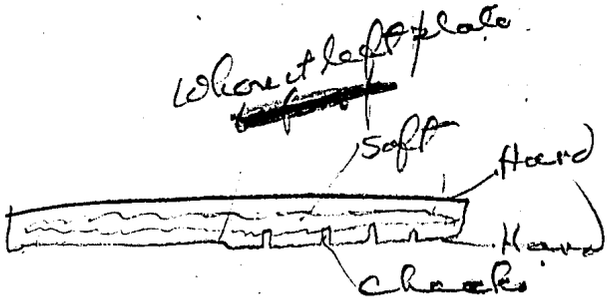
Keep Rein + Dup the Dame —

Hoffman Uses in blank Var

16 3/4 Lac
50 alcohol

about 26% of Shellac in Var

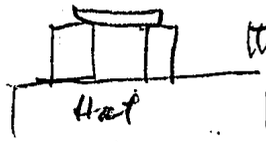
Use 66% Alcohol Var to 100 lbs wood



~~Dozen varnish plates, bottoms laid on stalk to keep that air from~~

Note —

I notice when a varnish is thick & flowed on small inch plate & well air dried & put



thus — The top is ok the bottom face shrinks & checks off circular strips hence bottom is full of checks or loose cracks

RO
1 — III
2 III
3
4 IIII
5-1
6 I
none

Fine II
good ~~IIII~~ ~~IIII~~
four
Rough

1293 is not quite hard
Enough to press out the
wrinkles it wants
48 E for that

37 E 1/18-1/16

Use 1293 Blank —
blank Dup 23 — dupped
Transfers Make 12
with plates that have
wrinkles —
Use req scheduler Transfer
+ permit

1—18—16—

Special 1293 — 22 F

50 lbs pressure on small press
450 grams

No change in blanks on loading machine — powder packs nice in loaders

Powder packs close in small press 3/16 scrape off on turn table

Weight of blank 446 — 436
gauged-averaged 230 to 240
Color light —
Leave mandrels fair —
719 made no discards

RO || Fine
1 ||
2 | good ||||| |
3 |
4 | fair
5
6
None Ruf |

Looks as if raised varnish plates used
Records all covered

NG

Good Edges ~~[illegible]~~
Wood good but blank pulls of 1/32

no blank deserends
1/16 scrape off

Something Wrong in
Uhs Expmt

38 E

Dup of E 23 |.. 1293

Use 4 wood 1 1/4 shellac

3 Chalk

Dip the blank

Use Reg Varnish plates Reg schedules
Moulded blank 20 lbs pressure in small ~~wood~~
Press – 86 blanks made 100%
Reg Var Reg stab

12 Transfd
5 OK
7 4 Chd 3 slight bubbs –
Something wrong with plates

5 Prmt 5 OK Note Cracked

30 with more shellac No cracks

RO — Fine IIII
1
2 I — good IIII — not soft=sharper
3
4 I — Face III good but sharper
5 III
6 IIII
none IIII — Ruff

No raised seen
Edges - ½ crumbled but not bad

Welds good

Blank
Lowered blades Leader 3/16"
only scant range eff.
Weight 446 gauge 240
leaves mould fair

118 OK 2=dies pull out
1 mechanical

Var - works good - plates
good - Vio 2.45 Room 82 Var 68

1-18-16

39E

Drop of 23 E 1293

But Use 4 wood - 1½ shellac
3 Chalk —

Dip the blanks —
Use regular Var plates +
Reg Schedules
Moulded 20 lbs pressure small press
99.1% good 120 moulded
Powder in hard cakes when taken from
Dryer
Transfers 12 Reg Var Reg Sch
11 ok 1 chipped Center
Print 6 Print
5 ok 1 poor print

RO fine ||||
1
2 good ||| — sharp —
3
4 || fair
5 |||
6 ||||
None ||| Rough

Oven 80-80°C
very Even
wormy

Weld, good.

Edges - broken out some in most often

~~Var Vis 2.16 Var good plates good~~
~~Room 82 hammer~~

Var - lays even on plates, dont creep like out regular, no veins looks same all over, Room 82 - Var 70° Vis 2.37

40-E

1293 blank

Make one gallon Reg Varnish but instead of bringing to 22 free phenol bring to 24 free phenol using 8 6/4

1293 blank = Hoffman V 1323
Transfer 12 120°C
Print 6 made
3 OK
3 poor print on Heavy

RO — Fine ~~IIII~~
1
2 | — good ~~IIII~~
3 |
4 || — ~~fair~~ ||
5 |||
6 ||
None ||| — Ref — Oven 80 ok 80

Weld good

Edges - fair - few chipped out,

Var Dries out even, mottled, spokes radiate from rim - plates good
Room 82 Var 65°

Note wrong from sheet & new report

41 E

Dup of 40 E
But use 26 free phenol
Still using 8 6/14
1293 blank

Transferred 12 Rep ~~[illegible]~~ ok
11 ok
1 ckd Var

6 Print
4 ok
2 poor print · Kaffen V. 1324

Note Crack

RO	Fine |||||	I note would look that Camphor oil not soluble in alcohol that accounts for slight cloudiness
1		
2 1.	good |||	
3		
4	fair 1	
5				
6						
None |||	Ruf –	Very good Varnish – as far as surface goes –

Welds good
Edges fair

Varnish flowing Var. light green looks muddy & oily wavy – thin streaks across center of plates – patched 26 plates
Weather fair –

After baking all look worm
Crystalized look –
74 plates 4 bubbles 6 Cracked 1 Dent
ok 63.

OVEN – 74 – 63 ok
Bubbles 4 Cracks 6
dust 1 Crystalized look worm

42 E 1-18-16

Make One gallon Varnish

Use regular proportions but substitute Enough Camphor Oil to Soat Twill be 5% of the Resin
To be used on E 22 1293
blank dipped 12 Transfer
6 prints

Hoffman 1325
Transfer 12 all ok
Prints 6
4 ok
2 poor prints on margin

Edges – fair –

Var. light green looks muddy oily plates wavy thin streaks across center
Room 82 Var 67

RO 1 — Fine ||||| |||||
1 -1
2 — good 1
3
4 |||| — fair 1
5 ||
6 1
none ||| — Reef -

Welds - good
Edges - fair -

Var, Dark Green on Color, works good, plates good Room 82 Var 70
Vis 2.16

Oven - 78 - 70 good
Bubbles 5
Raised 1
Cracked 1
Wrinkled 1

1-18-16

43 E

Make one gallon Varnish Dup of 42 E but put Enough Camphor oil to be 10% of the resin
Use on E22 1293
blank dipped -
Make 12 Transfers & 6 prints

Transfer 12 12 OK
Print 6
2 OK
4 poor prints on Mannequin

Hoffman 1326 - Var
~~Var, very clean works good - plates good~~
~~Room 82 Var 70~~

RO 1 — Fine ||||/ |||
1 ||
2 ||
3 | — good ||
4 — fair |
5 |
6 ||||
None | — Ruf |

Oil squeeze out + shows on Record

Van Like 43E

Weld good – Edges fair

Camphor Oil is Good

Must get things Polished in alcohol

Oven 79-460K
Cracked 32
Bubbles 1
Worm, Crystallized Cork

Oil used in Oil is Good

~~Van Like worked unusually good but creep of brank 79 – 32 Cracked all look worm + Crystalized 1 bubble~~

44E

Dup of 42E
But put enough Camphor oil in to be 20% of the resin.

To be used on E22 1293 blank — Dup blank
Make 12 Transfers + 6 Records

Transfers 12
11 OK
1 Mechanical

Prints 6 –
5 OK 1 poor print

Hoffman 1327

RO		Fine ~~IIII~~ III
1	II	
2		good II
3	I	
4	I	fair II
5	I	
6	III	
None	IIII	Fluff

Cant understand the 2 big RO

plates all very even, very warmy look fine + 100% plates -

45 E

Make 50 plates with Reg Varnish but use 50 CC of Varnish

Transfer 12 on 1293 E22

Print 6 -

Transfer 12
120K

Print 6 -
60K - Reg Var

long RO & a short wrinkle RO sharp

RO	fine
1	
2	good
3	
4	fair
5	
6	
none	Ruf

Edges fair to good

The thicker the Varnish the more wrinkles, must get the trick to stop them surfaces appear to improve thicker the Var but wrinkles increase again.

1-20-16

46 E

Make 50 plates with Reg Varnish but use 55 cc of Varnish

Transfer 12

Print 6 1293 blank

Trfd 12 12 OK
6 print
5 OK
1 slight poor print on margin
Cohac

Flowed all OK Looks good

Over all worry 16 plates without wrinkles 34 with wrinkles

Note thick Var Makes wrinkles

RO	Fine
1	
2	good
3	
4	fair
5	
6	
none	Ruf

No better than 46E

Think 55 CC best if wrinkles Can be got out, 50 will do but 55 is ideal if wrinkles got out —

Looks as if 50 CC best

Thicker plate above the wrinkle

1—19—16

47E

Make 50 plates regular Varnish but use 60CC

Transfer 12 1293 blank Dropped
Print 6

Transfd 12 120K
Print 6 6 OK —

Var plate flowed all OK look good
Baked plates 6 plates without wrinkles 40 with wrinkles all wormy

Note Wrinkles comes on thick Varnish

Isobutylxylol	27	minutes
Isoeugenol	248	"
Phenylhydrazin	141	"
Xylidin	88	"
Monochlorophenol	69	"
Camphor oil	271	"

Notes –

Used 3 cc each poured out in white butter dish – put right on hot plate

	Benzaldehyde all evap in	18	min
oil	Pine Needles "	23	"
"	Eucalyptus "	7	"
"	Lavender "	10	"
"	Origanum	8	"
"	Sassafras	48	"
	Safrol	47	"
oil	Cedar Wood	120	"
	Rosin Oil		
	Nujol	Dont evap	
	Camphor Oil		
	Monochlorotoluol	10	"
	Pentachloroethan	12	"
	Orthochloroaniline	38	
	Perchloroethylen	9	
	Trichloroethylene	4	

I think the shellac gets so finely divided that it oxidizes only Charcoal + Chalk + becomes brittle.
Some other resin of high MP might do better than shellac

Note —

Different fibres + powders for blanket Experts

	Powder
Mineral Wool	Cork Magnesia
Short fibre Asbestos	China Clay
Cotton flock	Clay
Cow-hair	Starch —
Straw	Fuller Earth
Ground Cork	Siliconite
	Infusorial Earth

1307 23E 4 to 1 Lac 3 check Moulded 20 lbs
pressure 538 blanks 100% OK
1308 24E 4½ to 1 1½ ground blank 20 lbs
97 made 100% OK
1309 26E 3 to 1 Lac 4 check 86 made 100%
no pressure 100% OK
no strike off – Powder showed cracks with
20 lbs pressure Blanks very soft – break away

1310-27E 2 to 1 Lac 5 check no pressure
80 blanks 100% no strike off
showed cracks with 20 lbs pressure
Blanks very soft break away

1311 28E 1 to 1 – 6 check
no pressure 103 blanks 100%
no strike off powder showed crack
with 20 lbs pressure, very soft
break away

1312 29E 5 to 1 Lac 2 check moulded
20 lbs pressure 66 blanks 100%
Blanks soft spongy break away

1314 31F 3 to 1 Lac 4 Charcoal
20 lbs pressure 109 blanks
77% blanks very soft + spongy
Discards Crumbled Edges

1315 - 32F 2 to 1 Lac 5 Charcoal
50 lbs pressure 45 blanks
57% OK Blanks very soft +
spongy Discards Crumbled Edges
+ break when stretching

1314 + 1315 - LOEut on fire in Dryer
at temp 218 Fahr

48E		11 OK
RO 1	fine	
1	good	
2		
3		
4	fair	
5		10 OK
6		
None	Rup	

Req Var
12 Transfer
10 OK
2 machine defects

6 Prints
1 OK
5 poor prints

Hoffman Number 1328,
Very good LOEU

These blanks are OK for everything Except poor prints + Edges which crumble rather bad —
guess P Prints be stopped by blank pressure reduced to 500 lbs + Edging back 1/8" more

48E 1-20-16 BOSS

ground fine 89% thru 180
.72 hardness
Crusher 48E 68% thru 180

2 Wood 5 Chalk
2 Shellac,

for RO + surfaces - think it would blend sharp + for strength + with Dehydrated Resin + low LH + making blanks fine + blank sharp

Make 45 to 80 blanks
Dup ~~[illegible]~~ blank for test —

~~[illegible]~~ Make 12 Transfers
Moulded 20 lbs pressure in 6 pound
Small press 107 moulded 100% good
Powder hard cakes like set Cement when
Taken from the press, Cuts like a soft blank
had to be broken up by hammer before
grinding so later would take it
Blanks thin ~~at~~ less + think than reg - 1/32
~~These moulded~~ up best looking
blank we have made so Hoffman says
face of blank looks to me as if
powder not ground fine Enough
think too much Lac = Lily - guess not
gauge 225 weight 444

RO 1 fine
1 ~~||||~~
2 |
3 ||
4 | fair||||
5 ||
6
none Ruf ~~||||~~ || NG

Very Mottled -
~~Very~~ Poor Edges -
fair weld - Little Checker Clean
@ Tandard,

Blanks Hofman 100%

49 E
4 wood 3 Charcoal 1 1/4 Lac

12 Transfer 12 OK Dupped Reg Var
6 prints 6 OK
Hoffman # 1329

RO Fair ~~IIII~~ IIII
1
2 good IIII
3
4 fair
5 |
6 ~~IIII~~ IIII
None III Ruff

Dont weld good as blank pulls off easy
Edges poor Crumble

Hofm blank % 98.7

50 E

4 wood 3 Charcoal 1 ½ Lac

Transfer Reg Van
Dropped
Transfer 12 Tran 12 OK
6 present 6 OK

RO 1 fine ~~IIII~~ 1
1 ||
2 1 good |||
3
4 ||
5 ||
6 |||
n 1 Rough ||

Blank has much finer grain than orig blank few big holes

good weld -

Adding more shellac gradually improves blank

Think wants more lac

Edges Crumbly - breakaway

Wants 2 lac final 2.25 lac

Heffron blanks % 100

51 E

4 wood 3 charcoal 1 3/4 lac

Transfers used Ray Van Dripped

Note Cracked

Transfers 12
10 OK
3 Dis Cracked

6 percent 6 OK

Note discordant results RO + surfaces
49 50 + 51

Something wrong somewhere

RO Fine ||||
1
2 good
3
4 fair
5 |
6 |
none || Ruf

Blank not as smooth as 51

Edges all Crumbled out

Varfeels very easy

Blank seperates / thick

to Vari —

Hofman 100yd

52 E

3 Wood 4 charcoal 1½ Lac

Transfers Reg Vari
Dipped blank

12 Transfers
2 ok
10 - Ckd Vari — note Cracks

2 print 2 ok

1 chipped out after forming

Cracks in Music

Extraform 1

RO	
1	Fine ~~IIII~~ IIII
2	good II
3	
4 II	Poor
5 III	
6 IIII	
none III	Ruf

Edges Slightly Crumbled

Welds fair -

Hoffman 100%

53 E

3 wood 4 Charcoal 1 3/4 Lac

Transfd Reg Veer
Reg Sch

Transfd 12
11 ok 1 ck) Note Cracks

Trent, 6 ok

RO	fine IIII
1	
2 I	good III
3 I	
4 IIII	fair III
5 I	
6 II	
None III	Ref II

Blank fairly fine grain

Welds good - but blank pulls off -

Edges Crumbly

Hoffman 100

54 E

3 wood 4 charcoal -

~~3 charcoal~~ 2 Lac

Transfer decig Var
Dipped

12 Trans 12 OK

6 permit 6 OK

Koffman 100%

55 E

.7 Chalk. 2 Lac

Dip run reg

Make 12 Transfers
6 prints

All blanks cracked + which
to plate on transferring
12 Transfers
too brittle no give must
have fibre

RO

1
2
3
4
5
6
7 None

Fine ||||
good
fair
Rough

Surfaces
Perfect

In transferring whole blank
Sometimes Crack clear
thru

Only welds to dipping Var
+ this + veneer come off together
because dipping Var not
thin enough to penetrate
Heffner 81% dehydrate + clinch
more of the blank

56 E

To work this blank
must have nearly
pure dehydrated rosin no
other stuff except perhaps sandrac + 6/11 4-
Pour

3 Charcoal 4 chalk

2 Lac

to get very low contraction
Even the 2 Lac dont save Varnish

Transfer Reg V Reg S

Transfer 12 - 20k 10 do
Prints 6 - 20k - both
no contraction
Notice terrible Cracks
both J + Pl's.

Note this —

Must have fibre
its like 55 E no fibre

I flowed some regular Var over 48E to see if we could print direct to do away with Transfers —

A 300 lbs

RO	fine
1	
2	good
3	
4	fair
5	
6	Weld good
None	Ruf

B

RO	fine
1	
2	good
3	
4	fair
5	
6	
None	Ruf

Weld good 2-3-4

C

RO	fine
1	
2	good
3	
4	fair
5	
6	
None	Ruf

Weld good 2-3-4

D

RO	fine
1	
2	good
3	
4	fair
5	
6	
None	Ruf

E

RO	fine
1	
2	good
3	
4	fair
5	
6	
None	R

57 E Mistake wrong press
These pressures are on small press
Duplicate 48E molded off fine
But do not use more than press
~~500 lbs pressure on press~~ 1400 pressure big press
pressing Try a dozen
each at 300 A 400 B
500 C + 600, D + 800, E,
Mark each

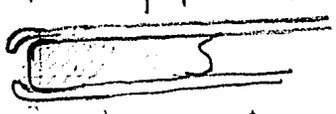
Molded on small press following pressures — 300 400 500 600 800 1000 lbs on big press — Man made a mistake — all 100%

A { Transfer 12 11 ok 1 Ckd
Print 6 - 5 ok 1 poor print
good weld - Edges crumbled - Strange

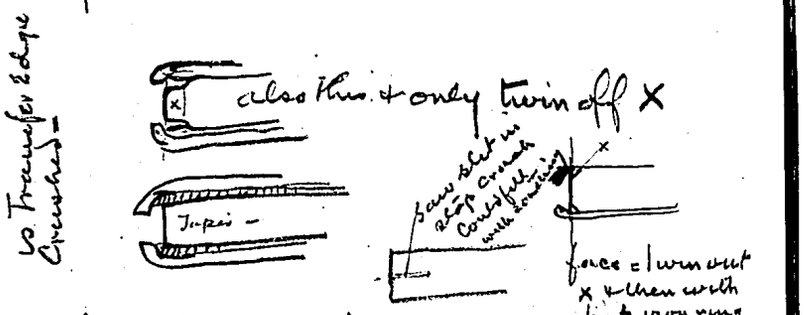
B { Transfer 12 6 ok. 6 Left Ckd
Print 6 - 5 ok in print on margin -

C { Transfer 12 12 ok
Print 6 - 5 ok 1 poor print

1 = Try rounding 2 wood stick to have to give good Edges



Extra Condensite gives too much pressure
See average overburden of Varnish there + round it to Correspond - get up a tool. This will clinch Var as well



See what chemical will increase solubility of 6/4 when alcohol is evap (ie) will of itself be a powerful solvent for 6/4 so when alcohol is evap it will not segregate but be kept distributed in the liquid solvent + act evenly

Is Acetylcellulose Sol in Alcohol with aid of another solvent ~~for~~ Try it.

Acetylcellulose Sol in Chloroform
Epichlorohydrin - glacial acetic
Myrbane Some sol in Acetone
+ Acetic Ether, Ethane Tetrachl

Also try Celluloid, its Sol alc + Eth, Acetone
if it decomposes it leaves a fabric in the Condensite Var

Grind the asbestos fibre up very fine so goes through 30 + 50 mesh

See if 6/4 solin Melted Naphthalene.

Try those Very weak Reg V sol with much alcohol on bottles check Condensed Very gradually + see if they will really Condense - Important. Will 6/4 Condense in presence of much water

Find out what blank used when we were 90% Transfer + also Cracks + then what was done

Look for my Books of beg Var Expts at Lab my desk etc

Get 500 lbs Asbestos.

[ITEMS(S) FOUND IN BOOK]

Form 1195

Transfered 1/26/16

EXPERIMENTAL

MOORE

POWDER BLANK TRANSFER INSPECTION

1256

Var. Lot No. 94

Blank No. 1297 Pow C450

Oven No. 13-14

Total Transferred	789
Total O. K.	608
Total Discarded	181

NATURE OF DISCARDS

Cooked Centre	
Lift Cracked	
Lift Cracked on one edge	
Lift not cracked	
Thin Margin (Black on opposite side)	
Thin Margin (Red on opposite side)	
Pull Out	
~~Birds~~ Holes	2
Cracked Waves	
Cracked Varnish	130
~~Mechanical Defect~~ chipped	49

77%

[ITEMS(S) FOUND IN BOOK]

Form 765 1256 Wan. Lab 94 1497 Bek- 450 MOORE Date 7/28/56

FINAL RECORD TEST

Knocks	Crackel	Run Out	Rough Surface	Cracks	Poor Prints	Bad Labels	Scratch	Wrong Combination	White Spots	Holes	Bad Centre	Cuts			Total
		18		9	5			Reg Clearstone							
		33		10	3										
		49	1	21											
		100	1	40	8										149

Number of Records Discarded 149

" " O. K. 459

TOTAL Records Tested 608

" " on Hand

" " Received

75% OK

Tester.